FIGURE 1

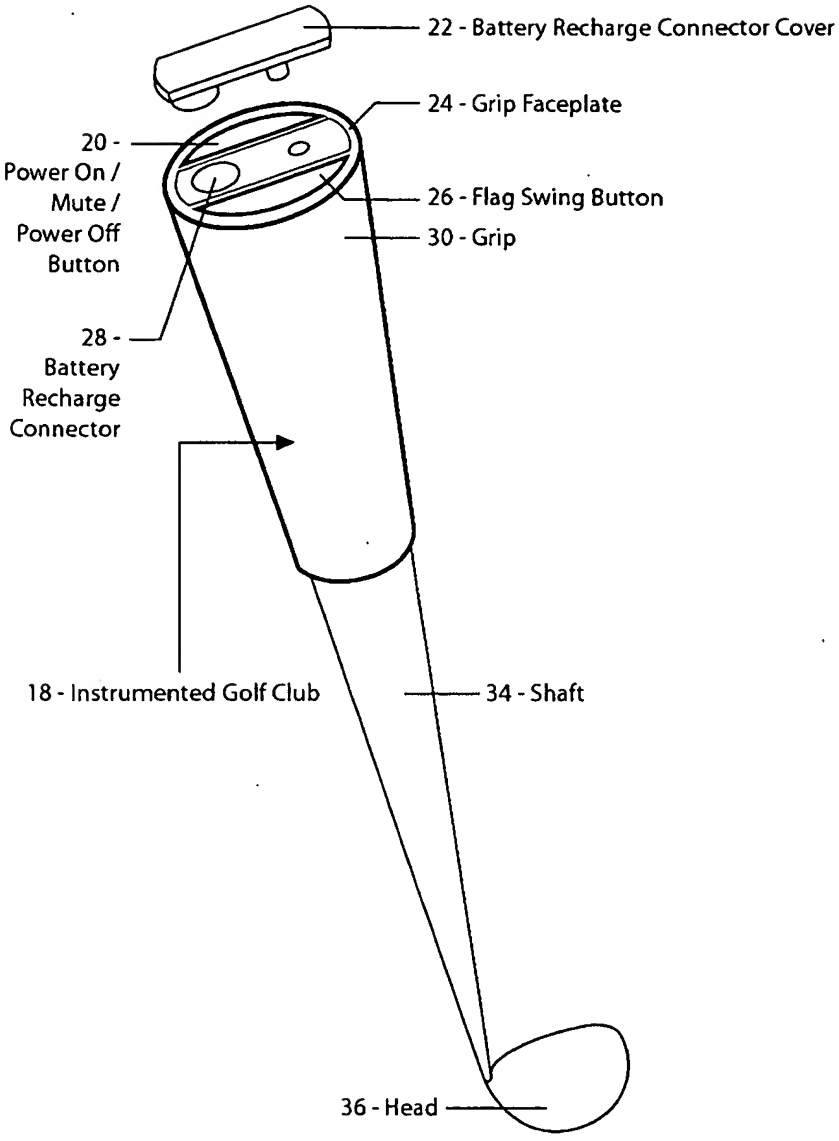

22 - Battery Recharge Connector Cover
24 - Grip Faceplate
20 - Power On / Mute / Power Off Button
26 - Flag Swing Button
30 - Grip
28 - Battery Recharge Connector
18 - Instrumented Golf Club
34 - Shaft
36 - Head

FIGURE 2

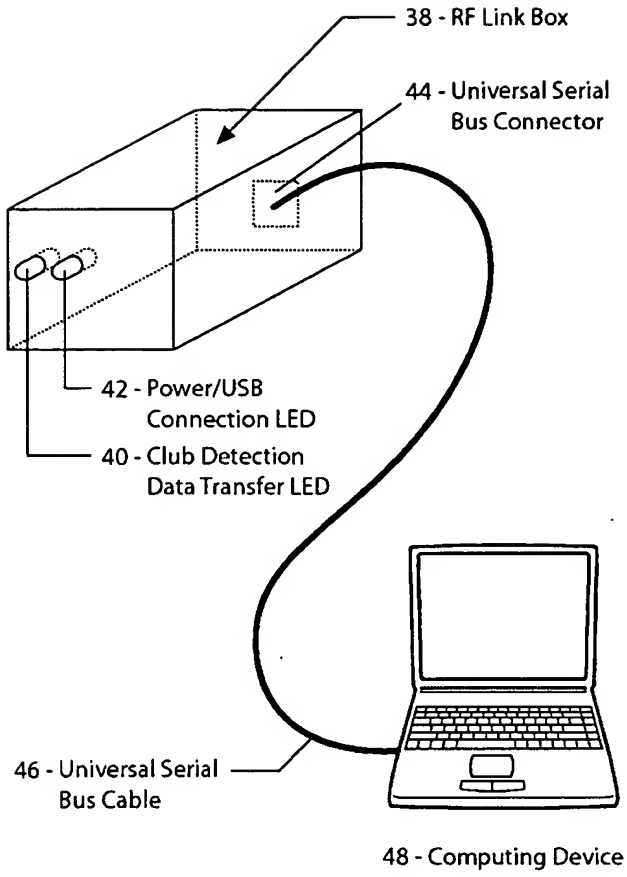

38 - RF Link Box
44 - Universal Serial Bus Connector
42 - Power/USB Connection LED
40 - Club Detection Data Transfer LED
46 - Universal Serial Bus Cable
48 - Computing Device

FIGURE 3

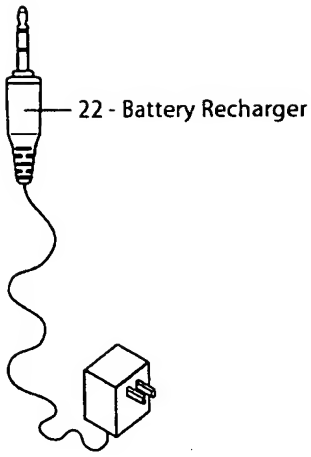


FIGURE 4

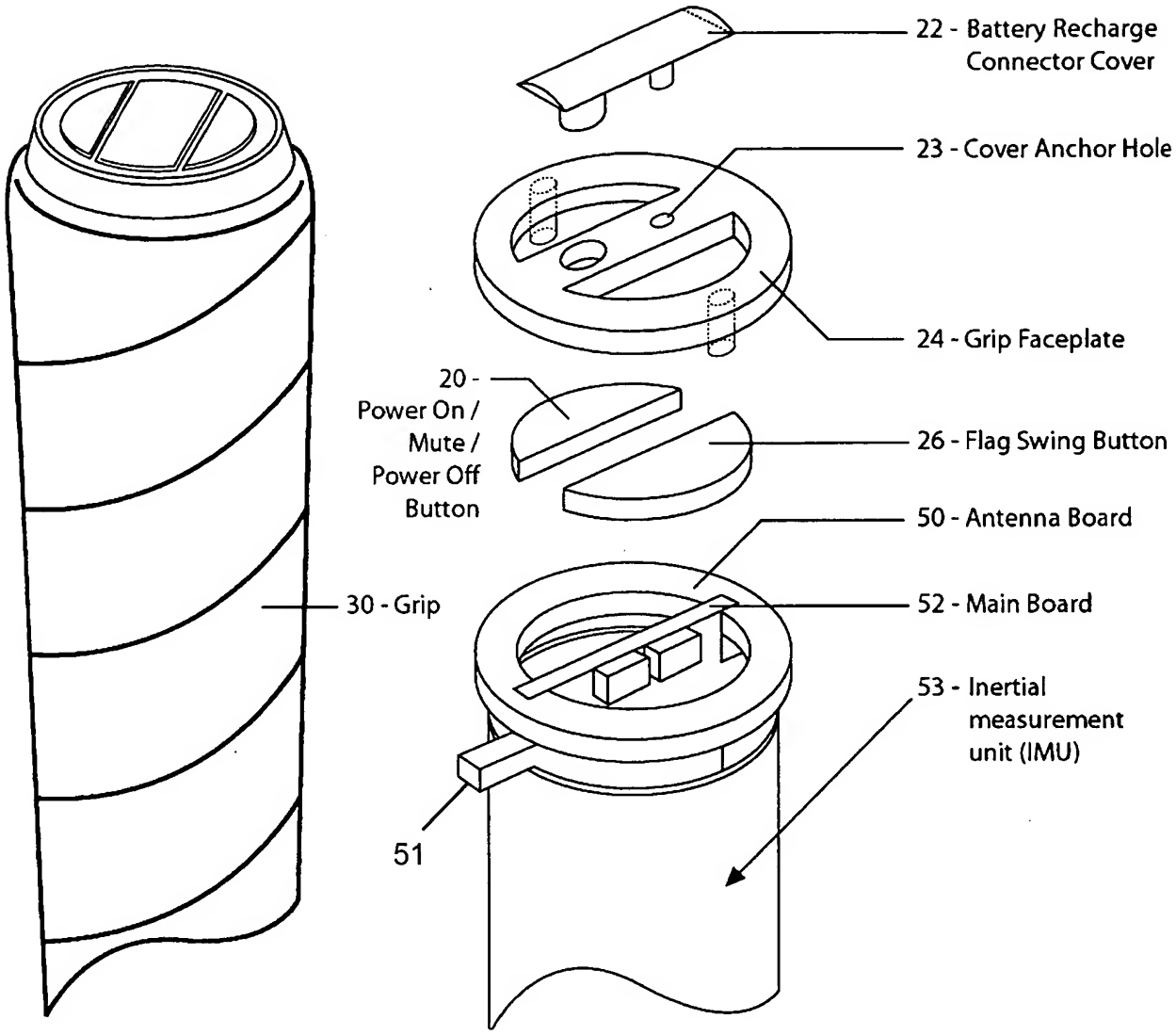

22 - Battery Recharge Connector Cover
23 - Cover Anchor Hole
24 - Grip Faceplate
20 - Power On / Mute / Power Off Button
26 - Flag Swing Button
50 - Antenna Board
30 - Grip
52 - Main Board
53 - Inertial measurement unit (IMU)
51

FIGURE 5

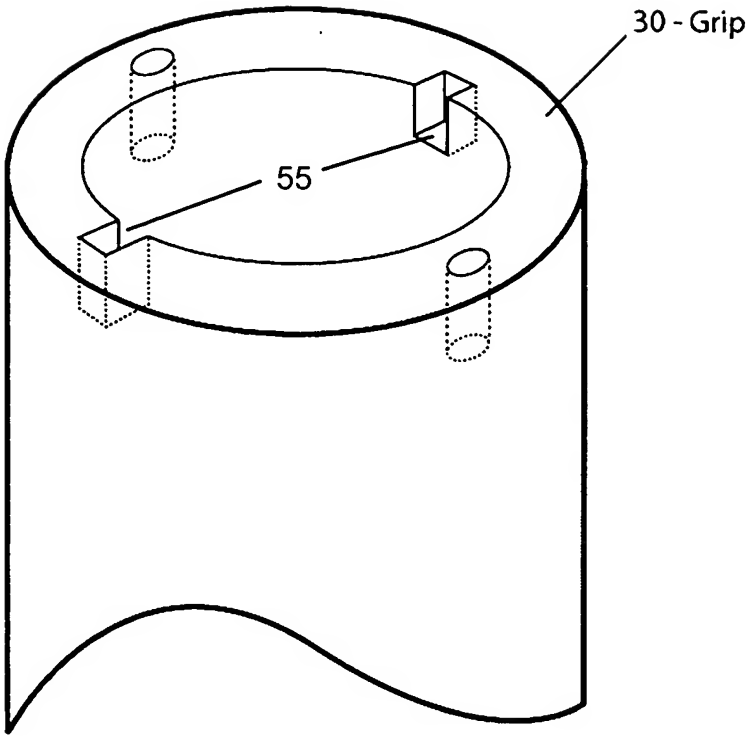


FIGURE 6

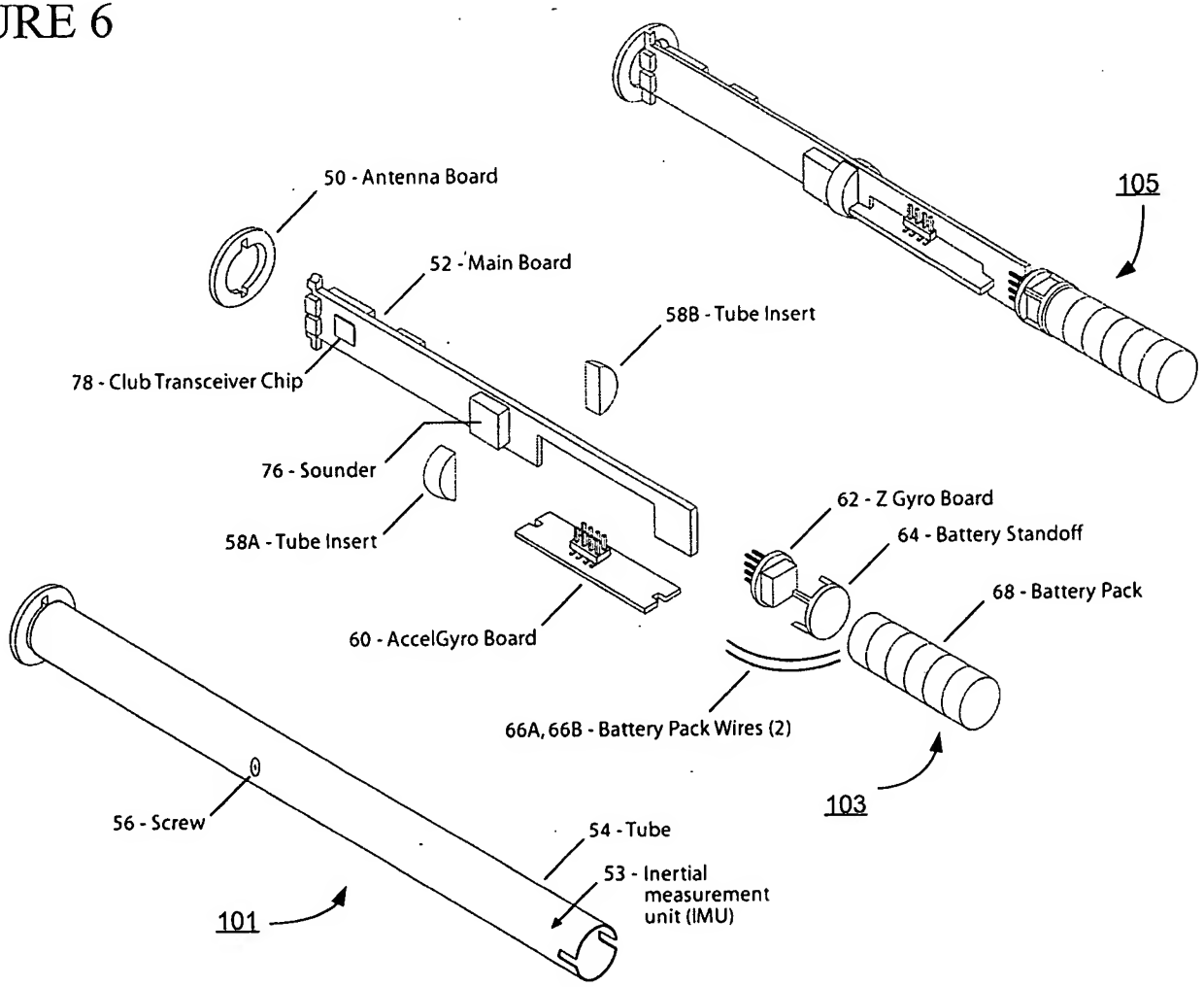

50 - Antenna Board
52 - Main Board
58B - Tube Insert
105
78 - Club Transceiver Chip
76 - Sounder
58A - Tube Insert
62 - Z Gyro Board
64 - Battery Standoff
68 - Battery Pack
60 - AccelGyro Board
66A, 66B - Battery Pack Wires (2)
103
56 - Screw
54 - Tube
53 - Inertial measurement unit (IMU)
101

FIGURE 7

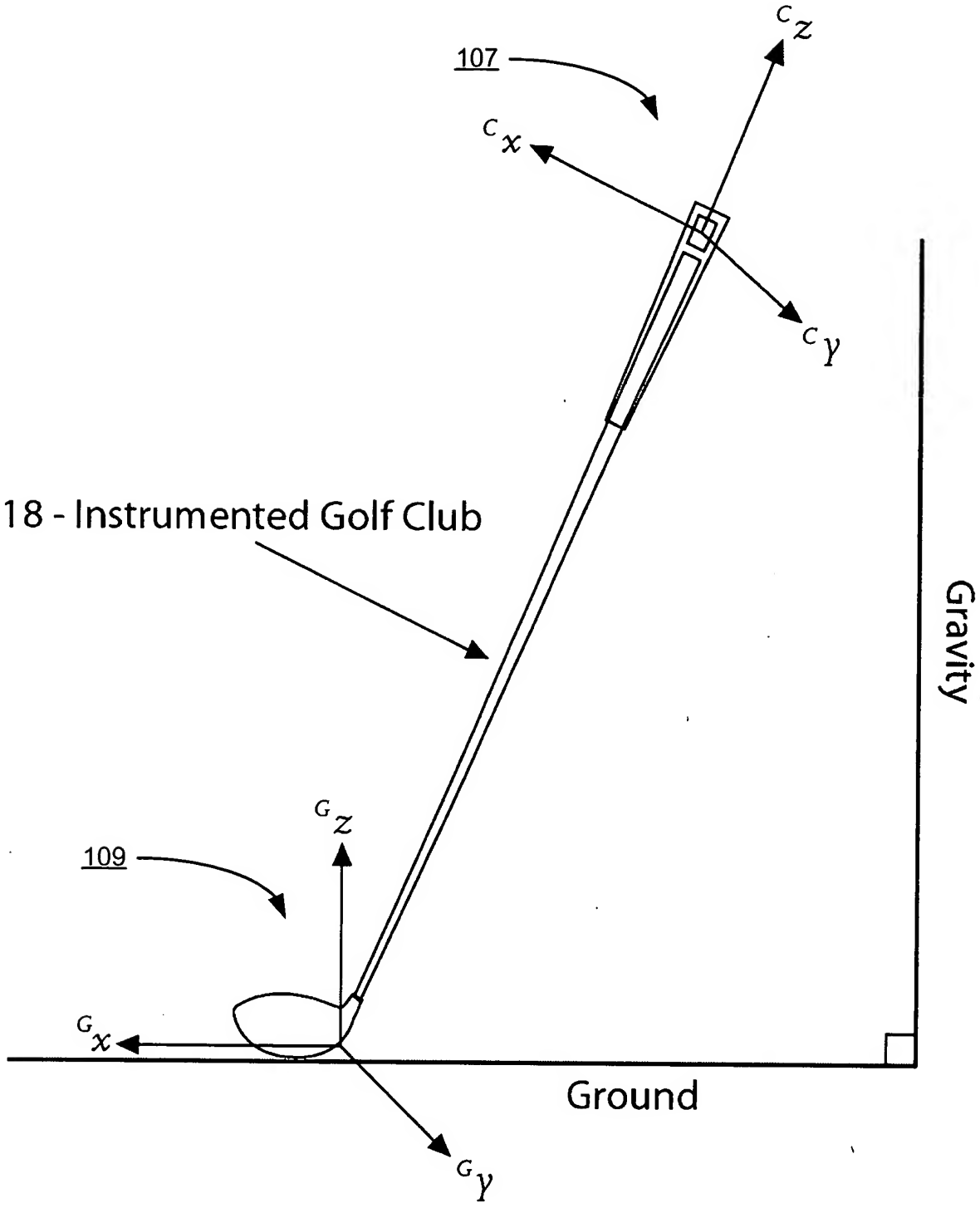

107
^{C}z
^{C}x
^{C}y
18 - Instrumented Golf Club
Gravity
109
^{G}z
^{G}x
Ground
^{G}y

FIGURE 8

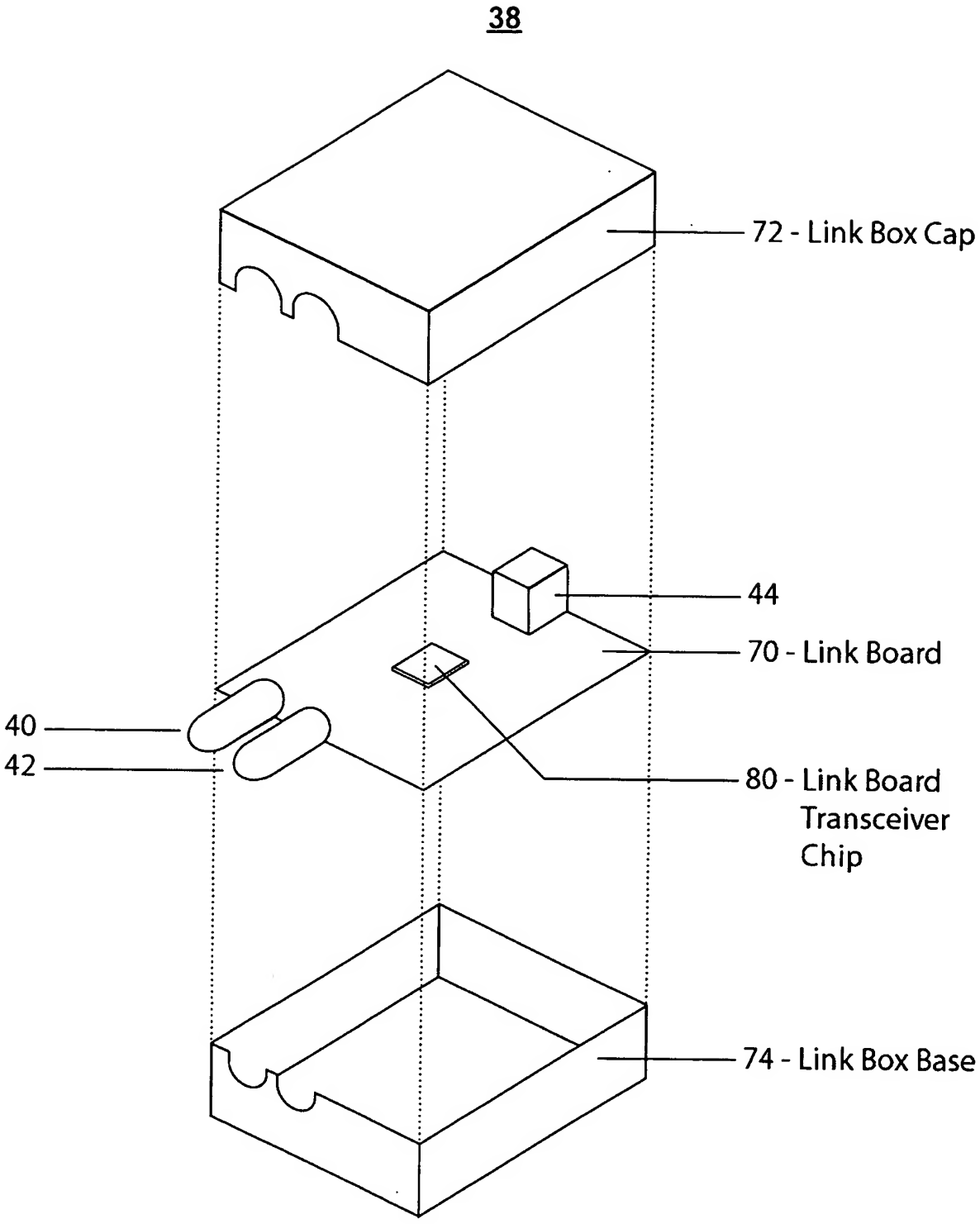

38
72 - Link Box Cap
44
70 - Link Board
40
42
80 - Link Board Transceiver Chip
74 - Link Box Base

FIGURE 9

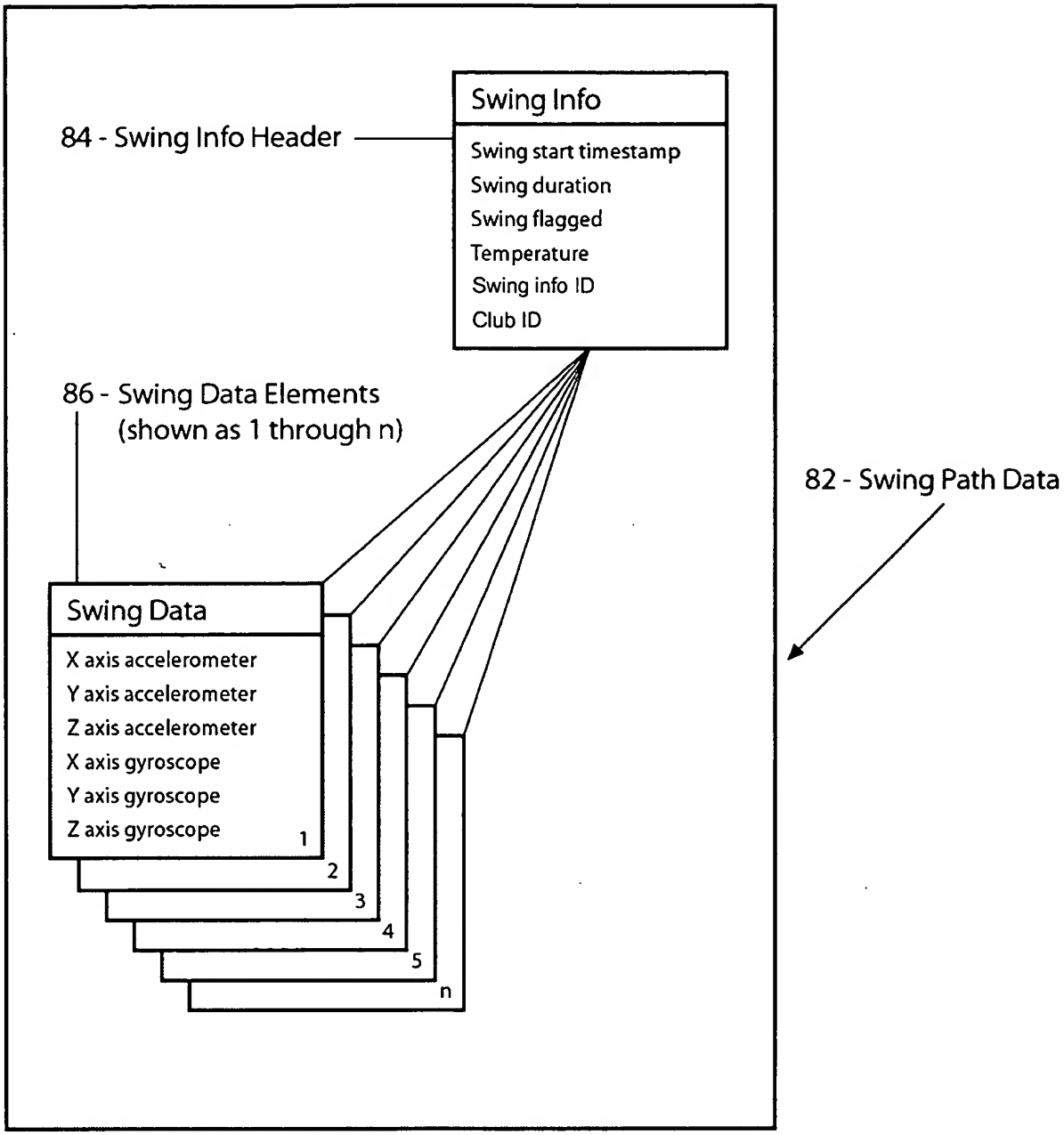

Swing Info
84 - Swing Info Header
Swing start timestamp
Swing duration
Swing flagged
Temperature
Swing info ID
Club ID
86 - Swing Data Elements
(shown as 1 through n)
82 - Swing Path Data
Swing Data
X axis accelerometer
Y axis accelerometer
Z axis accelerometer
X axis gyroscope
Y axis gyroscope
Z axis gyroscope
1
2
3
4
5
n

FIGURE 10

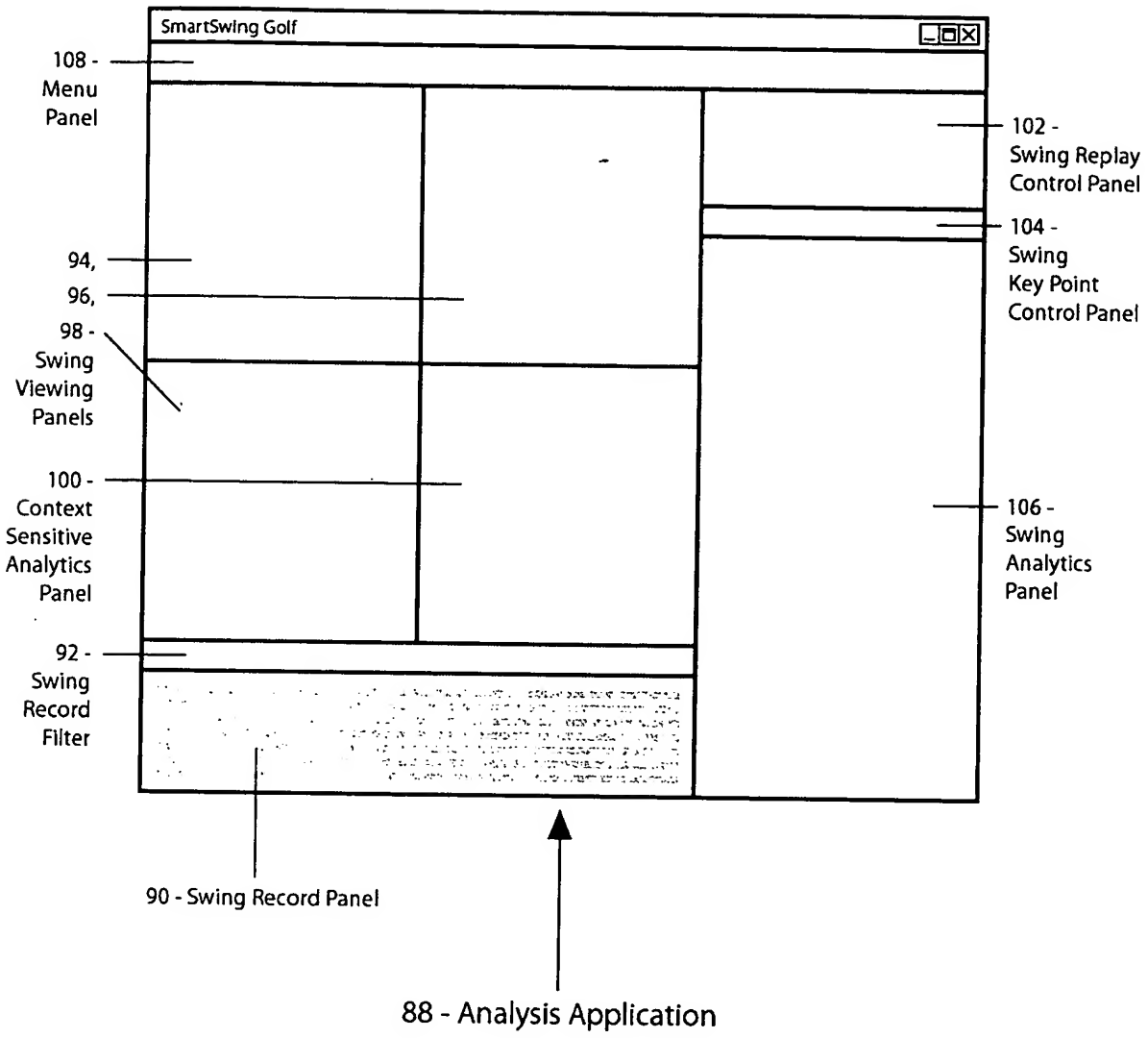

SmartSwing Golf
108 - Menu Panel
94,
96,
98 - Swing Viewing Panels
100 - Context Sensitive Analytics Panel
92 - Swing Record Filter
102 - Swing Replay Control Panel
104 - Swing Key Point Control Panel
106 - Swing Analytics Panel
90 - Swing Record Panel
88 - Analysis Application

FIGURE 11

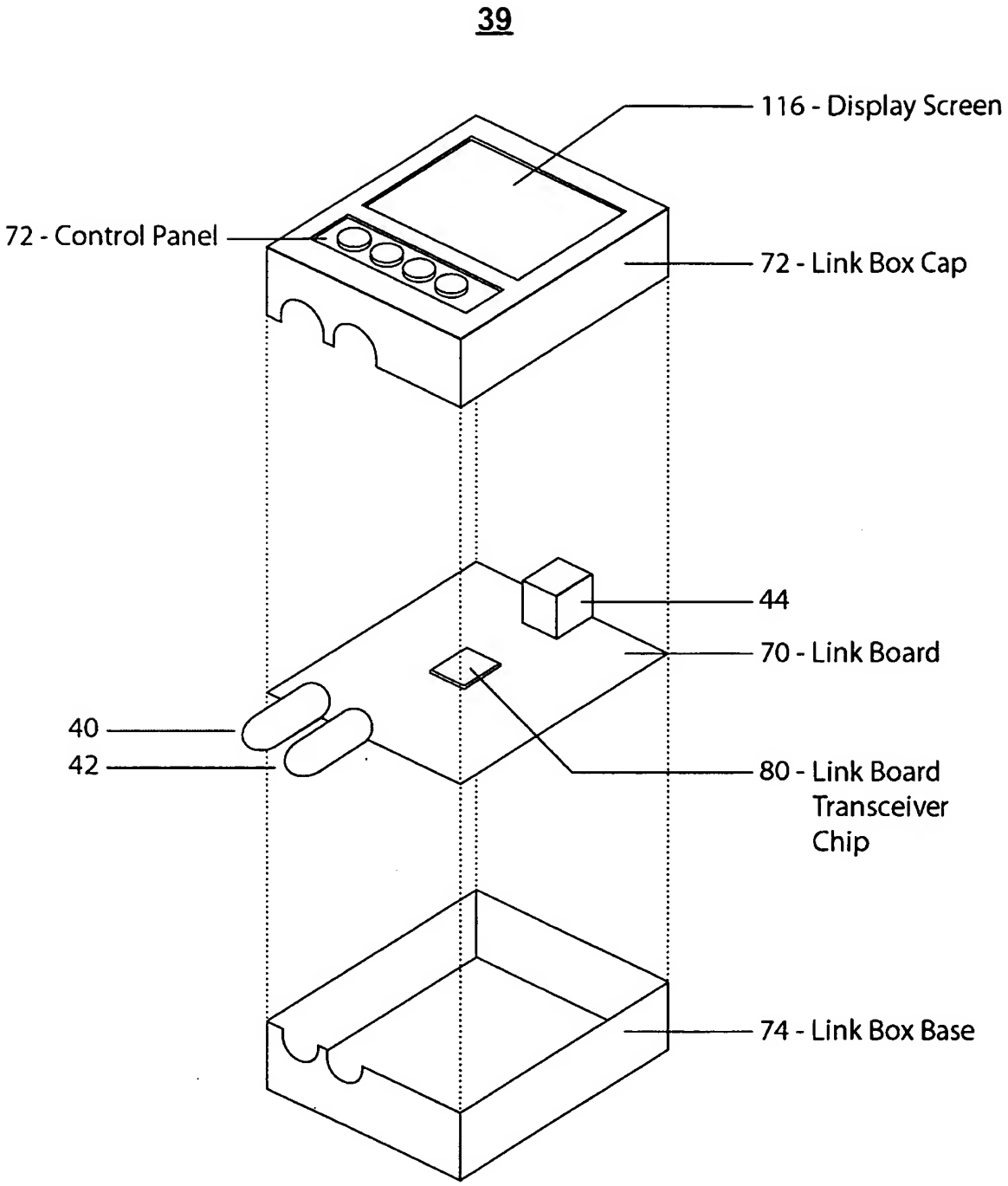

39
116 - Display Screen
72 - Control Panel
72 - Link Box Cap
44
70 - Link Board
40
42
80 - Link Board Transceiver Chip
74 - Link Box Base

FIGURE 12

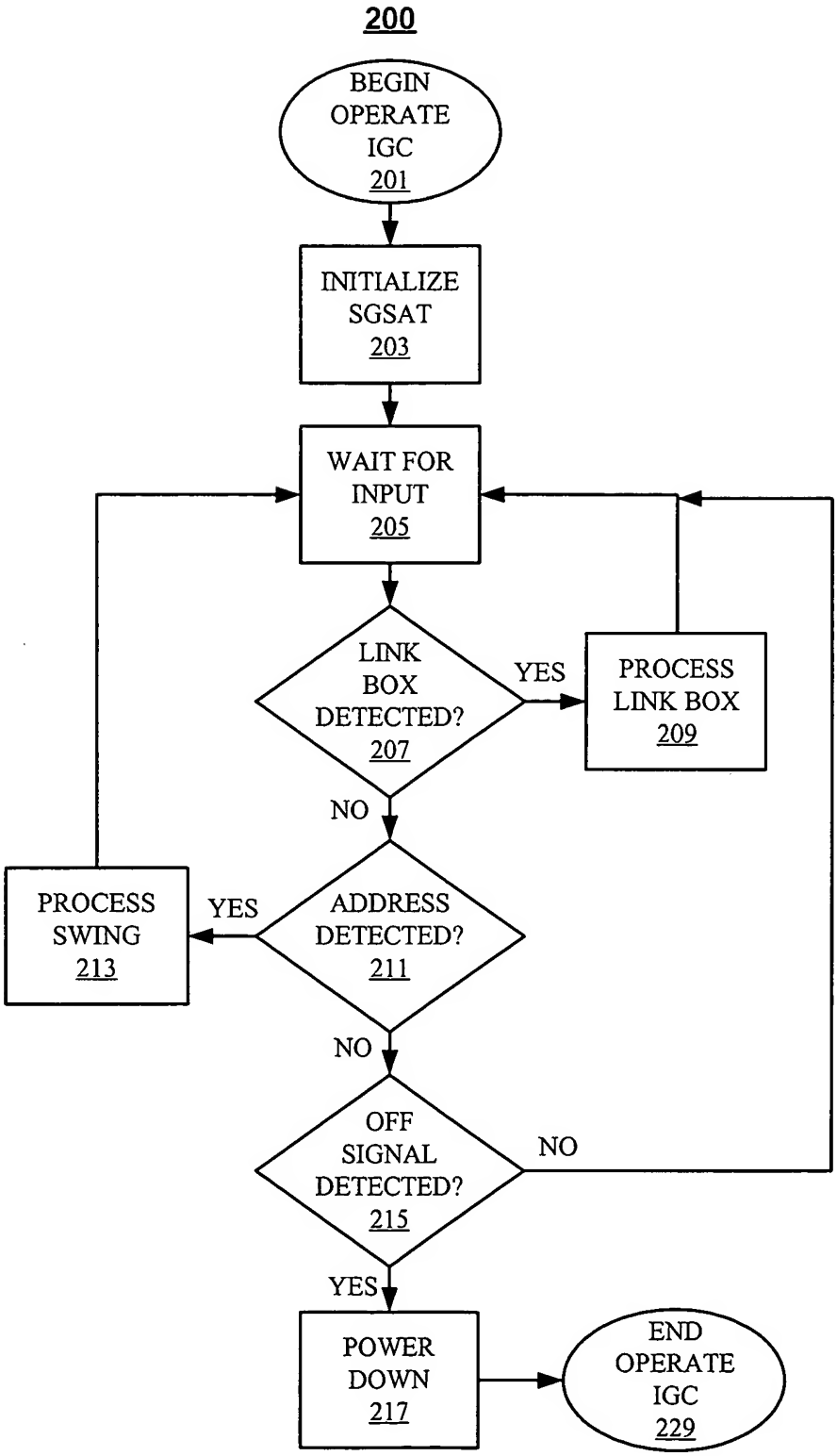

200
BEGIN OPERATE IGC 201
INITIALIZE SGSAT 203
WAIT FOR INPUT 205
LINK BOX DETECTED? 207
YES
PROCESS LINK BOX 209
NO
ADDRESS DETECTED? 211
YES
PROCESS SWING 213
NO
OFF SIGNAL DETECTED? 215
NO
YES
POWER DOWN 217
END OPERATE IGC 229

FIGURE 13

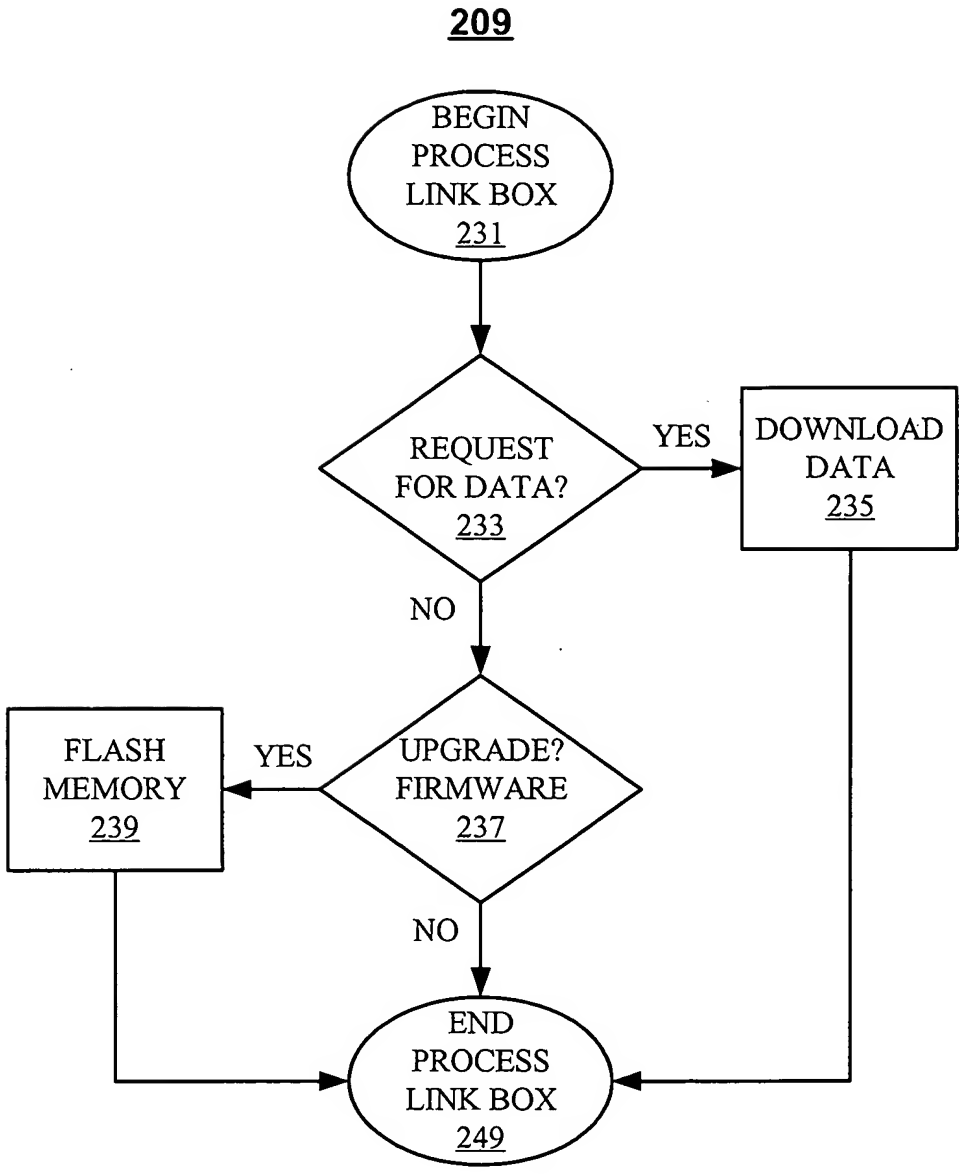

209
BEGIN PROCESS LINK BOX 231
REQUEST FOR DATA? 233
YES
DOWNLOAD DATA 235
NO
UPGRADE? FIRMWARE 237
YES
FLASH MEMORY 239
NO
END PROCESS LINK BOX 249

FIGURE 14

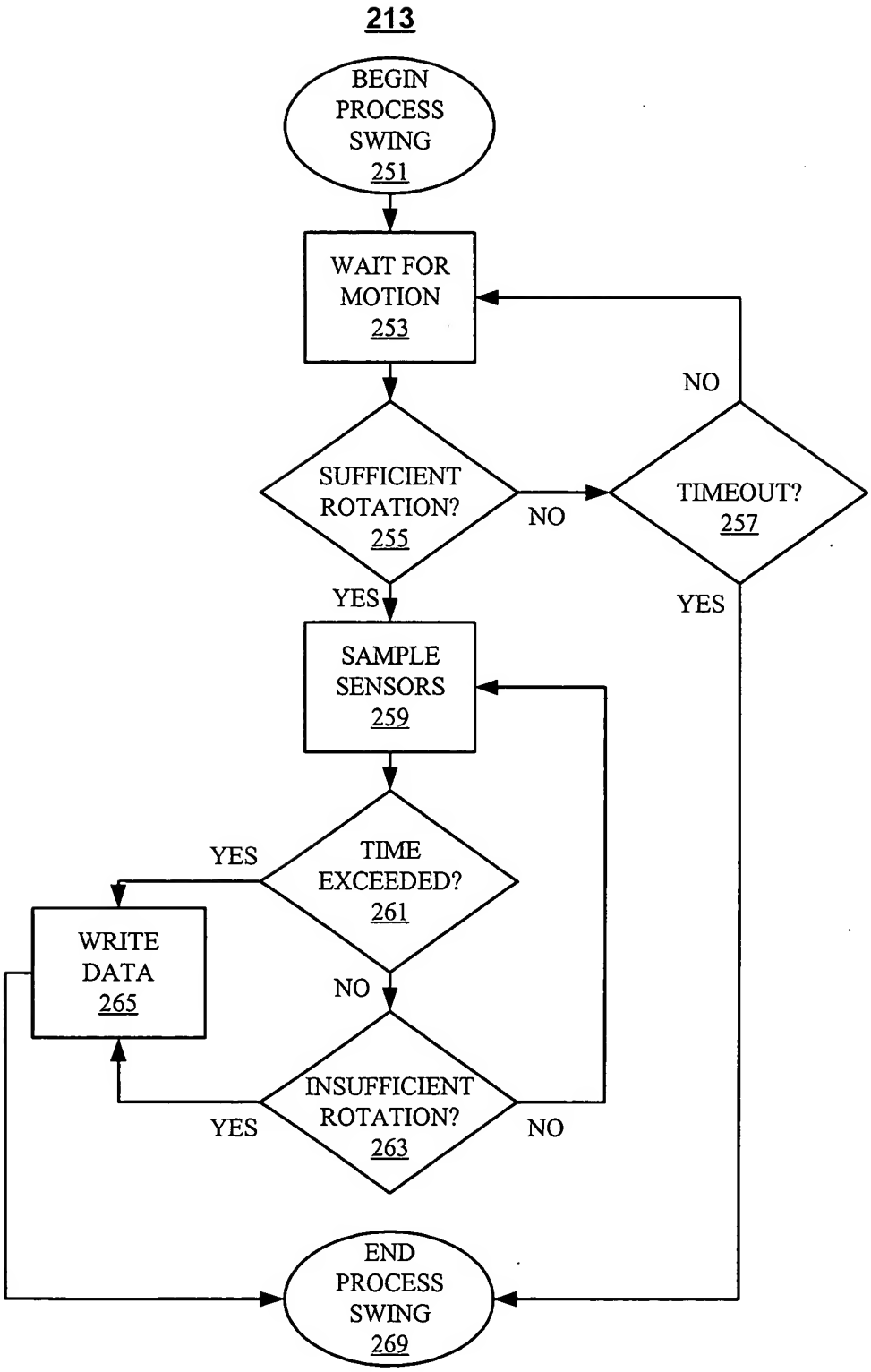
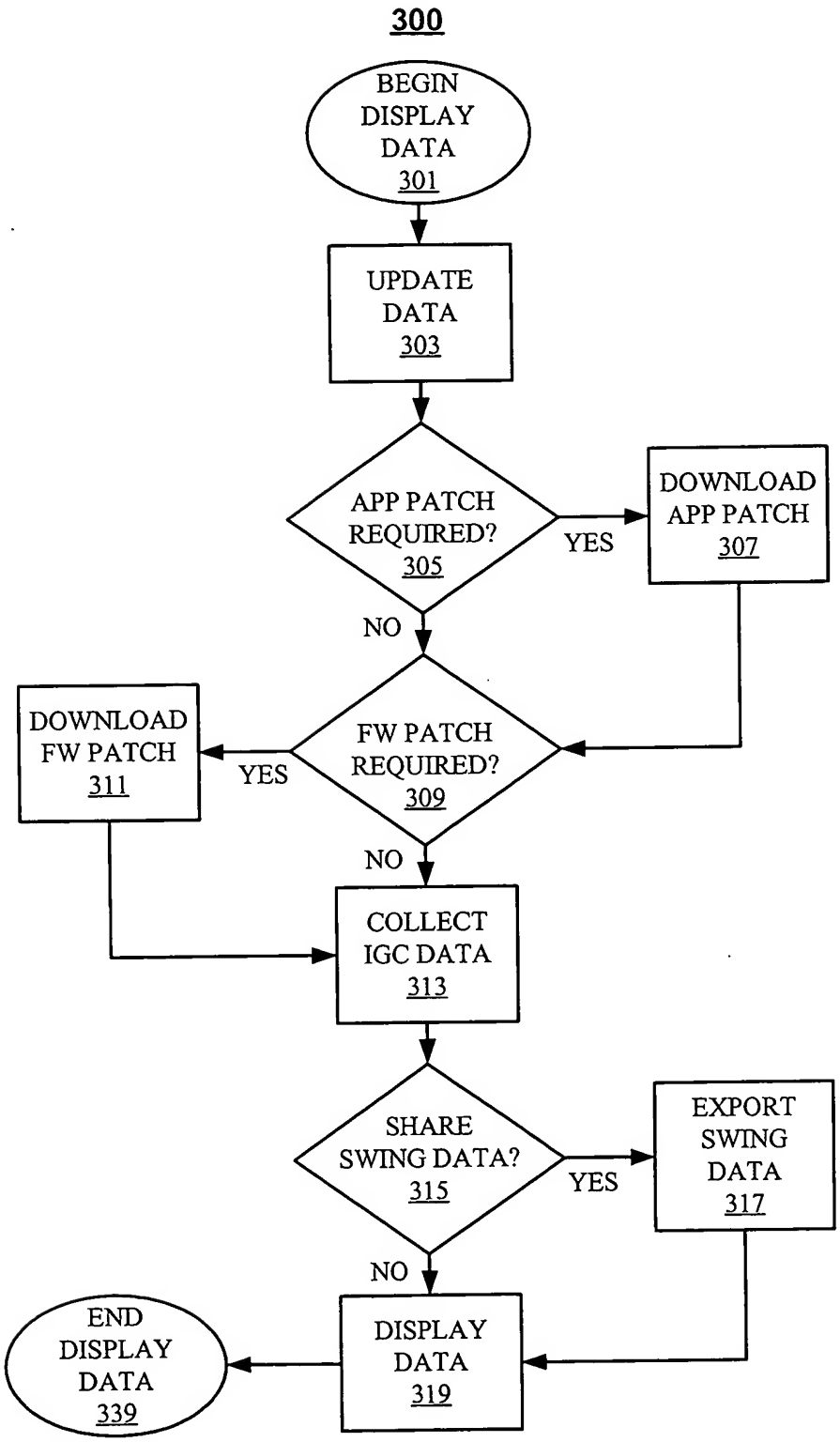

213
BEGIN PROCESS SWING 251
WAIT FOR MOTION 253
SUFFICIENT ROTATION? 255
NO
TIMEOUT? 257
NO
YES
YES
SAMPLE SENSORS 259
TIME EXCEEDED? 261
YES
WRITE DATA 265
NO
INSUFFICIENT ROTATION? 263
YES
NO
END PROCESS SWING 269

FIGURE 15


300
BEGIN DISPLAY DATA 301
UPDATE DATA 303
APP PATCH REQUIRED? 305
YES
DOWNLOAD APP PATCH 307
NO
FW PATCH REQUIRED? 309
YES
DOWNLOAD FW PATCH 311
NO
COLLECT IGC DATA 313
SHARE SWING DATA? 315
YES
EXPORT SWING DATA 317
NO
DISPLAY DATA 319
END DISPLAY DATA 339